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ABSTRACT

This rview focuses on the innovation process in local schools. Emphasis is placed on (1) how local schools implement innovations, (2) facilitators and inhibitors of innovation, and (3) unmet needs in assisting schools to adopt innovations. A 78-item bibliography of rlated literature is included. (RA)

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PROCEDURES FOR MANAGING INNOVATIONS

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FOREWORD

In mid-June 1970 the Clearinghouse received an urgent request from Central ERIC in the U.S. Office of Education to prepare selected bibliographies and brief analysis of literature on eleven critical topics related to school organization and administration.

The bibliographies and analyses were required by USOE's National Center for Educational Research and Development (formerly the Bureau of Research) in planning its new program of directed research and development. School organization and administration is one of four areas of education chosen by the center to receive concentrated research and development assistance. The others are reading, early childhood, and vocational education.

Through a joint effort the Clearinghouse staff completed the bibliographies and analyses for shipment to USOE by July 2, the deadline date.

The analysis and bibliography combined here focus on (1) current evidence on how local schools identify, judge, install, evaluate, and maintain innovations, (2) facilitators and inhibitors of innovation in schools, and (3) unmet needs in assisting schools to try, adopt, and install innovations.

The literature cited in the bibliography and analyzed in the paper was drawn from a search of the two ERIC index catalogs, Research in Education and Current Index to Journals in Education, and from the following non-ERIC sources: Books in Print, Cumulative Book Index, Education Index, Public Affairs Information Service, Sociological Abstracts, Social Sciences and Humanities Index, and Book Review Digest. Although the urgency of the request precluded a full and comprehensive search and analysis of the literature, the reviews and bibliographies are intended to assess accurately some of the current developments and emerging trends on the topic.

Many of the documents cited in the bibliography can be ordered from the ERIC Document Reproduction Service. Instructions for ordering these documents are given at the end of the bibliography.

Philip K. Piele
Director

Analysis of Literature on

PROCEDURES FOR MANAGING INNOVATIONS

Since the late 1950s, educators have been under growing pressure to increase the effectiveness and efficiency of the nation's school systems. Although numerous innovations have been proposed to assist the schools in achieving these goals, the schools as a whole have been relatively slow to adopt innovations. To determine why the adoption rate has been so slow, researchers have studied various aspects of the innovation process.

Extent of Adoption

Several studies measured the extent to which innovations have been adopted both in the nation as a whole and in individual schools and school systems. Cawelti's survey (1967) of 7,237 accredited high schools disclosed how many schools had adopted or rejected 27 innovations by state, by type of innovation, by attributes, and by educational environment. Cawelti observed that there is an abundance of material on innovations, but little on the effects of treatment or strategies.

Hearn (1969) studied the extent to which educational innovations developed through federally funded projects of ESEA Title III are continued and adopted by school systems. A survey of the school districts that had administered the 330 such projects funded in fiscal year 1966 showed that 279 (84.5%) were continued. Continuation was found to be associated with such project characteristics as cost and preparation of materials, such situational or system variables as wealth and community norms, and such superintendent characteristics as age and

education. The average project was responsible for stimulating 20 similar new projects in other schools.

In Toronto, Ontario, the Committee on the Implementation of Change in the Classroom (1967) analyzed the innovation process in two Ontario schools. The analysis emphasized the adoption and implementation phases of two innovations.

Carlson (1968) summarized and evaluated research on adoption and diffusion of educational innovations with emphasis on the deficiencies of past research. In 1964, Mort summarized the findings of about 200 studies of the adaptability of school systems.

Facilitators and Inhibitors of Change

A large number of studies have centered on factors that facilitate or inhibit adoption and diffusion of innovations. Most of these factors fall generally into three groups: characteristics of school leaders and staff members, characteristics of the community, and characteristics of the school organization.

Carlson (1965), in Adoption of Educational Innovations, analyzed the rates of adoption of educational innovations in terms of qualities of innovations, stages of adoption, and characteristics of innovators. He concluded that the rates of adoption and diffusion of innovations are only partly accounted for by the nature of innovations and innovators.

In a study to determine factors that cause or inhibit change in a school organization, Marcum (1968) classified 30 schools in five Western States according to degree of innovativeness and organizational climate. The study revealed that the most innovative schools had open climates, higher expenditures per student, lower average age of staff, fewer number of years of staff service, and a larger professional staff.

Pellegrin (1966) discussed the conditions under which educational

innovation can occur and the changes that must be made to tie together knowledge and practice. In a later work (1968) he showed that effective innovation must be preceded by fundamental changes in educational organization.

Goodlad, Von Stoephasius, and Klein (1966) studied the problems and issues that have plagued various curricular innovation projects. After evaluating the organization and instruction of these innovations, the authors suggested that successful innovation depends on balance, experimentation, and self-renewal of curriculum.

From a study of an innovation that was unsuccessfully introduced into a small elementary school in a lower-class urban area, Gross and his colleagues (1968) attempted to isolate factors that inhibit and facilitate the implementation of planned organizational change. The study concluded that implementation of change must take into account (1) staff resistance, (2) the clarity of the innovation, (3) staff's capability to perform it, (4) the existence of necessary materials and resources, and (5) the compatibility of organizational conditions with the innovation. In addition, resistance to change may emerge after the introduction of an innovation and can vary over the period of time inplementation efforts are made.

Reynoldson (1969) investigated the interrelationships between the decision-making process and the innovativeness of public schools. His study's findings indicate that the educational decision-making structure (centralized or decentralized) does not measurably influence decisions of professional staff members to adopt innovative practices. However, more innovation was found in schools with greater openness of organizational climate. Reynoldson concluded that factors such as personality characteristics of the administrator, his willingness to adopt innovative ideas, his leadership style, and the diffuseness of the communication network may have more influence on decisions to adopt innovative ideas than the structure of decision making.

Hencley (1968) contends that successful initiation of innovations must recognize the preferences and demands of groups that hold power in the community. Hughes (1968) found that leadership "thrust" and staff "esprit" correlate highly with innovation in school district central offices. Guba and Clark (1967) examined the educational change process from production of new knowledge to implementation of new practices, and presented 16 recommendations to facilitate change.

Factors that impede innovations in education have also been widely studied. In 1965, Abbott and Lovell edited a volume of six papers that identified the basic forces in American society affecting education, the organizational-institutional impediments to change, and the nature of educational change as a social process.

In "Barriers to Change in Public Schools," Carlson (1965) traced the relatively slow rate of change in public schools to three barriers: (1) the absence of an institutionalized change agent, (2) a weak knowledge base, and (3) the "domestication" of public education, which distinguishes it from other areas such as agriculture.

Miles (1969) contends that resistance to educational innovation is a consequence of the normative structure of institutions, especially the contemporary educational system.

Goldman and Heald (1967), following a review of the literature and an analysis of data on the relationship between personal need patterns and teaching behavior, concluded that age promotes self-centeredness among teachers, and is the major obstacle to flexible, responsive teaching practices. However, Bridges and Reynolds (1968) studied the effect of the teacher's belief system on receptivity to innovations. They questioned the assumption that greater experience makes for greater inflexibility.

Goldhammer (1965) cited five factors that affect public acceptance of educational change: the public's image of the change advocate, the organization and its ends, the public's view of the change, the congruence of the change with the public's values and recognized needs, and external or "situational" factors.

Administrator as Change Agent

Gallaher (1965) analyzed the possibilities and limitations of the superintendent as an effective advocate in directed educational change. The unique characteristics of the school as a formal organization and the implications of such characteristics for directed change are emphasized in the analysis.

Booth (1965) concluded from a review of the literature that although school principals are somewhat limited as agents of reform by the pluralistic nature of educational policy making, they seem most effective in promoting curriculum reform.

Miller (1968) provided educational planners and managers with background knowledge essential to understanding and effecting planned change in education. He outlined several dimensions of planned change and related them to involvement of administrators, operational leaders, and teachers.

Strategies for Innovation

Having considered the reasons for success or failure of innovation adoption, some researchers have devised strategies and models for schools to use in implementing innovations. Most of the strategies are generally constructed, to fit a variety of situations.

Culbertson (1965) examined the constraints that have restricted planned educational change and outlined four major organizational strategies at different levels to overcome the restraints and thereby facilitate change. Clark (1965) argued that changes in the educational structure, under the impact of economic,

demographic, and political forces, have altered the requirements of a viable strategy for educational innovation. He suggested that a viable strategy must recognize these interests and that enlarging organizational structures to encompass the interests will facilitate educational innovations.

Arthur D. Little, Inc., (1968) assessed the usefulness of several models for innovation adoption by interviewing and submitting questionnaires to educators and parents in eight typical school districts. From the study, a more general model was derived: Innovation adoption can occur only in the presence of an initiating mechanism and a sustaining mechanism. The report discusses the implications of the study for stimulating and supporting innovations in school districts.

Keil (1969) examined present approaches to innovation and, using programmed learning as a concrete example, suggested a new administrative structure to advance innovation. Miles (1969) described seven types of structures to manage innovative processes. He stressed the coordination of the processes.

Kimbrough and Todd (1967) argued for changing the bureaucratic nature of school systems to allow for more educational change. Miles (1965) criticized the traditional "Weberian" bureaucratic model of organization as inappropriate for the schools, and proposed an alternative model stressing the capacity to innovate.

Meade (1966) summarized models and variables in educational change in a plea for curriculum reform.

Winn (1969) studied educational innovation within the context of the broader problem of modernization, especially in the underdeveloped countries. He concluded that the problem of innovation lies not in the properties of the schools themselves but in inadequate implementation of plans.

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